

REMARKS

Claims 19-26, 29, and 30 are pending in this application. By this Amendment, claims 19 and 22-24 are amended. Support for the amendments to the claims may be found, for example, in the specification at paragraph [0061] and at paragraph [0069]. No new matter is added.

In view of the foregoing amendments and following remarks, reconsideration and allowance of the claims are respectfully requested.

I. Rejection Under 35 U.S.C. §103

The Office Action rejects claims 19-26, 29, and 30 under 35 U.S.C. §103(a) over U.S. Patent No. 4,769,073 to Tastu et al. ("Tastu") in view of EP 444470 to Ashley et al. ("Ashley") and further in view of U.S. Patent No. 6,171,572 to Aozasa ("Aozasa"), U.S. Patent No. 5,264,010 to Brancaleoni ("Brancaleoni"), and U.S. Patent No. 5,804,513 to Sakatani ("Sakatani"). Applicants respectfully traverse the rejection.

Claim 19 recites, *inter alia*, "An abrasive for polishing a rock crystal, a quartz glass for a photomask, a semiconductor device or a hard disk made of glass, the abrasive comprising a sol, which includes particles dispersed in an aqueous medium, wherein: the particles comprise as a main component crystalline cerium oxide of cubic system and as an additional component a lanthanum compound, neodymium compound or a combination thereof ... the abrasive has a pH of 3 to 4.6." (Emphasis added). Claim 22 recites similar features. The applied references, individually or in combination, would not have rendered obvious at least the above features of claims 19 and 22.

The Office Action asserts that Tastu discloses a reaction medium that has a pH in a range from 5-10. *See* Office Action, page 4. The Office Action acknowledges that Tastu fails to disclose a polishing slurry (merely addresses a reaction medium) having a pH of less than 5. *See* Office Action, page 4. Further, as discussed in previous responses, Tastu merely

discloses a reaction medium from three French patents that is used to form ceric oxide that could later be used in the polishing composition of Tastu, but the reaction medium is not the final polishing composition and, thus, the pH of this reaction medium cannot be attributed to the final polishing composition of Tastu. Thus, Tastu does not disclose, and would not have rendered obvious, an abrasive comprising a sol having a pH of from 3 to 4.6. The Office Action applies Sakatani to allegedly address the above discrepancies of Tastu.

The Office Action asserts that Sakatani allegedly discloses an abrasive composition with abrasive particles (e.g., cerium oxide, aluminum oxide, or silicon oxide) with a pH of about 5 or less. *See* Office Action, pages 4-5. Further, the Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to select a pH range of less than 5 in the slurry composition employed by Tastu, because Sakatani allegedly discloses that the pH of the slurry composition may depend on the kind of oxidizing agent added to the slurry. *See* Office Action, page 5.

However, Tastu merely discloses the use of oxidizing agents in its reaction medium. Tastu does not disclose using oxidizing agents in a polishing slurry or in a sol. For example, Tastu discloses a composition of Cerox 1600, cerous nitrate $\text{Ce}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$, and deionized water in Example I, but no oxidizing agent, as disclosed in Sakatani, is present in this or any other example of Tastu. Further, there is no reason or rationale for one of ordinary skill in the art to have used the oxidizing agents of Sakatani in the polishing composition of Tastu at least because there is no indication in any of the applied references that the polishing composition of Tastu (i.e., a composition with cerium, lanthanum, and/or neodymium) can or should include an oxidizing agent. Sakatani only discloses the need to control the pH of its polishing composition so that the oxidizing agent is stable. However, Tastu does not disclose an oxidizing agent in its polishing composition and, thus, there is no need to control the pH of Tastu's polishing composition to stabilize an oxidizing agent, as required by Sakatani. Thus,

the applied references, individually or in combination, would not have rendered obvious at least the above features of claims 19 and 22.

Tastu and Sakatani do not provide any reason or rationale for one of ordinary skill in the art to have modified Tastu's glass polishing composition to have a pH as disclosed in Sakatani. In addition, Ashley, Aozasa, and Brancaleoni, do not address the discrepancies of Tastu and Sakatani as to claims 19 and 22 and, thus, the applied references would not have rendered obvious at least this feature of claims 19 and 22.

Claims 19 and 22 would not have been rendered obvious by Tastu, Ashley, Aozasa, Brancaleoni, and Sakatani individually or in combination. The remaining claims variously depend from claims 19 and 22 and likewise would not have been rendered obvious. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Petition for Extension of Time

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